The Challenge of Natural Gas Development in China

Basic Concepts in Natural Gas Purchase and Sales Agreements

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The Oil & Gas Business in China

- All minerals are owned by the State subject to development by various State-owned entities, such as Sinopec, PetroChina and CNOOC
- Foreign investors enter into Petroleum Contracts with these State-owned entities
- All hydrocarbons allocated to foreign producers by Petroleum Contracts must be sold to a Chinese

The Oil & Gas Business in China

- To date almost all crude oil and natural gas production allocated to a foreign producer has been exported
- The State, recognizing the superiority of natural gas as a fuel source, has implemented a policy favoring natural gas development since 1998
- China has not yet developed its full strategy for assimilating natural gas production from foreign

Differences Between Crude Oil...

- Crude oil is able to be priced according to international market prices
- If a foreign producer cannot agree to terms with a Chinese purchaser, export is an option
- Almost all Petroleum Contracts contain provisions to facilitate export of crude oil

…and Natural Gas

- Natural gas cannot easily be stored
- Natural gas must be sold to a Chinese purchaser, such as PetroChina, Sinopec, or CNOOC
- Price of natural gas is controlled by the State and is historically low compared to other hydrocarbon products
- Due to lack of market flexibility, foreign producers have a hard time penetrating local markets

Anatomy of a Typical Gas Sales Contract

- Dedication of Supply
- Deliverability
- Daily Contract Quantity
- Annual Contract Quantity
- Take or Pay
- Make-Up Rights

Anatomy of a Typical Gas Sales Contract

- Price
- Taxes
- Payment Terms
- Delivery Sales Points
- Quality Measurements
- Quantity Measurements

Anatomy of a Typical Gas Sales Contract

- Applicable Laws
- Dispute Resolution
- Sovereign Immunity
- Economic Stabilization

Dedication of Supply

- Seller agrees to sell a certain portion of its production and Buyer agrees to buy same amount
- Seller wants certainty that the gas it produces will be purchased by Buyer for the contract term
- If a Seller is not satisfied with the sales terms, then it may be unwilling to make the capital investment

Deliverability

- Deliverability is the total volume of gas the wells can produce on a regular basis
- Established by well testing under supervision
- Will fluctuate over the life of the gas well
- Used to determine the minimum required takes each day

Daily Contract Quantity

- Minimum volume that Buyer must purchase each day to fulfill contract
- Expressed as a percentage of the deliverability
  - For instance, a 90% DCQ means that 90% of the Deliverability should be purchased each day
- The DCQ percentage is

Annual Contract Quantity

- **ACQ is the arithmetic sum of the DCQs for the whole year**
- **Yearly reconciliation is preferable because it allows for seasonal fluctuation of takes**
  - **For instance, with a 90% DCQ, if a Buyer purchases only 80% of Deliverability for a week, then it can purchase 100% for a week and still be in compliance on an annual basis**
- **Fulfillment of ACQ determines if a Take or Pay payment is owed**

Take or Pay

- Take or Pay is determined at the end of each calendar year
- It is a volumetric reconciliation to determine if Buyer has taken and purchased at least the ACQ
- If Buyer has not purchased the ACQ, Buyer is obligated to make a cash payment to Seller equivalent to the difference in value between what <u>was</u> purchased and what <u>should have been</u> purchased

Make-up Rights

- If a Take or Pay payment is made, then Buyer is entitled to make-up Rights
- Buyer is entitled to take additional gas volumes over and above the DCQ
- No payment is necessary as gas has already been paid for
- There might be certain limitations on when and how much make-up

Price

- **Many possible different price scenarios**
  - **In countries with mature markets and multiple buyers, natural gas is sold on contracts as short as a day to multi-year contracts**
  - **In Europe, most natural gas is sold on long term contracts**
  - **In less developed regions, most natural gas is sold on long term contracts to dedicated projects or LNG exports**

Price

- Difficult pricing issues in China:
  - What is the market price and how is it determined?
  - Is an economic price for project gas sustainable in the local market?
  - If price for local gas is regulated, is project gas price required to be regulated?
  - Can project gas compete with alternative fuels on price alone?

Taxes

- Generally, the taxing structure in China is predictable
- But, foreign producers are allowed a VAT preference of 5% on production, instead of the usual 13%
- This creates a problem because the Chinese end users are used to paying a regulated price inclusive of 13% VAT
- This creates an imbalance in

Payment Terms

- Sellers require that payment be made in US Dollars
  - Foreign exchange issues
  - Regulatory limitations
  - Repatriation risks and limitations
- Sellers require that payment be made promptly
- Sellers require some form of security
  - May require Buyer to post letters of credit, etc.
  - Penalty for late payment; interest

Delivery Sales Points

- Lack of comprehensive infrastructure will delay development
- Limited points of delivery puts strain on Buyer
- Construction costs must be allocated

Quality Measurements

- Most Chinese gas is sold by volume
- Most international gas is sold by heat content

Quantity Measurements

- Very complex and technical provisions
- Conforming of Chinese standards and international standards

Applicable Laws

- Comprehensive and dependable legal regime is critical element to attract foreign investors
- Foreign investors frequently have a difficult time deciding where to go when problems arise
- Chinese hydrocarbons law needs updating
- Foreign investors are looking for predictable enforcement of

Dispute Resolution

- Chinese have a system for local ad hoc arbitration but court access is limited
- All Petroleum Contracts provide for international arbitration
- China has a history of solving problems before resorting to litigation or arbitration

Sovereign Immunity

- Because State-owned entities act as owner, producer, buyer and caretaker of Chinese natural resources, there is a high likelihood of conflict of interest
- Foreign investors must be satisfied that when the State-owned entities act as a contractual party, they are treated as an equal party, not as the State
- Gas sales contracts must recognize this exclusion of sovereign immunity

Economic Stabilization

- These clauses protect the foreign investment from material changes in economic terms due to government action
- Only protects from the result; cannot limit government from action
- Assists collaboration of PetroChina and foreign investor to an equitable

Conclusions

- China's demand for domestic natural gas will increase dramatically in the near term
- The development of reserves must keep pace with the construction of transportation facilities
- As foreign investment is attracted to China, the need for certainty of contract terms is critical
- China will adapt its domestic laws and policies to meet its long-term energy goals